

Claims

1. A method for the transmission of a plurality of coded orthogonal frequency division multiplexed signals, the method including the steps of: a) receiving a plurality of input signals; b) attenuating the input signals; c) band-pass filtering the attenuated signals; d) mixing the band-pass filtered and attenuated signals with a single frequency signal to provide mixed signals in a predetermined bandwidth; e) attenuating the mixed signals; f) band-pass filtering the signals attenuated in step e); g) pre-amplifying the band-pass filtered signals from step f); h) attenuating the pre-amplified signals; i) amplifying the attenuated pre-amplified signals; j) band-pass filtering the signals amplified in step i; and k) transmitting the band-pass filtered signals from step j) to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.
2. A method according to claim 1 wherein the signals are in the microwave region of the electromagnetic spectrum.
- 15 3. A method according to claim 2 wherein the step of static discharge protection is provided.
4. A method according to any preceding claim wherein the step of antenna port mismatch protection is provided.
5. Apparatus for the transmission of a plurality of coded orthogonal frequency division 20 multiplexed signals including: a) means for receiving a plurality of input signals; b) first attenuating means (10) for attenuating the said input signals; c) first band-pass filtering means (14) for band-pass filtering the attenuated signals; d) single frequency generation means (32,34,36) for generating a single frequency signal; e) mixing means (16) for mixing the frequency of the first band-pass filtered signals with a single frequency signal to provide mixed signals in a predetermined bandwidth; f) second attenuating means (18) for attenuating the mixed signals; g) second band-pass filtering means (20) for band-pass filtering the attenuated mixed signals; h) pre-amplifying means (22) for pre-amplifying the second band-pass filtered signals; i) third attenuating means (24) for attenuating the pre-amplified signals; j) amplifying means (26) for amplifying the attenuated pre-amplified signals; k) third band-pass filtering means (28) for band-pass

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filtering the signals amplified in step j); and l) means (40) for transmitting the third band-pass filtered signals to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.

6. Apparatus according to claim 5 wherein the single frequency generation means
5 includes a phase-locked oscillator (34), a high-stability oven controlled crystal oscillator (36) and a band-pass filter (32).
7. Apparatus according to claim 5 further including dc signal blocking means (38) for protecting the internal RF circuitry from static discharges.
8. Apparatus according to claim 5 wherein the first attenuating means (10) is an input
10 switched intermediate frequency attenuator.
9. Apparatus according to claim 8 wherein the input switched intermediate frequency attenuator operates in the 0 dB to -70 dB range.
10. Apparatus according to claim 5 wherein the mixing means (16) is a double balanced transmit mixer.
11. Apparatus according to claim 5 further including antenna port mismatch protection
15 means (30).
12. Apparatus according to claim 11 wherein the antenna port mismatch protection means (30) is a circulator.